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COTTON and CHEMICAL FIBERS

Competition in Japan

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U. S. DEPARTMENT OF AGRICULTURE

By Bernice M. Hornbeck

Foreign Agriculture Report No. 97

U. S. DEPARTMENT OF AGRICULTURE
Foreign Agricultural Service
Washington, D. C.

July 1957.

U. S. Government Printing Office: 1957
For sale by the Superintendent of Documents
Washington 25, D. C. Price 15 cents

CONTENTS

Page

Summary 1
Postwar development of the textile industry 2
  The cotton textile industry 2
  The chemical fiber industry 4
  Recent conditions in the textile industry 8
Expansion plans for the textile industry 9
  The Government's Five-Year Plan 10
  The Government's Eight-Year Plan 10
  Japan Chemical Fibres Association long-range plan . 11
Foreign exchange balances and import requirements for the textile industry 13
  Raw cotton requirements 13
  Wood pulp and chemical requirements 14
Prices of raw cotton and rayon staple fiber and yarn .. 17
  Raw material prices 17
  Yarn prices 18
Rayon staple raw material costs 20
Domestic consumption of textiles 22
Textile exports 25
  Trends 25
  Goals 25
Japanese investments in foreign countries 28
Outlook 30
  Plus factors for chemical fibers 30
  Minus factors for chemical fibers 31
  Conclusion 32

COTTON AND CHEMICAL FIBERS

Competition in Japan

By Bernice M. Hornbeck

SUMMARY

A solution to Japan's problem of balancing resources and needs requires difficult decisions, which the Japanese Government is apparently prepared to make. Although the probability of attaining government goals is uncertain, the course charted for the textile industry is clear, and should be of real concern to the observer whose interest lies in selling raw cotton to Japan.

The postwar development of Japan's cotton industry, despite earlier gains, is now lagging behind the development and expansion of the chemical fiber industry. The greatest boom has occurred in rayon staple fiber, a direct competitor of raw cotton. There are extensive plans for the future; these are not limited to cellulosic fibers, however, but extend to the noncellulosics--fibers that are produced solely from chemical raw materials.

Official plans of the Japanese Government frankly emphasize expansion of the chemical fiber industry to the detriment of cotton; foreign exchange earning power is the basic reason for this attitude. Domestic demand for chemical fiber products was encouraged mainly by prices cheaper than those of comparable cotton products. The reduction of export prices for United States raw cotton in 1956 enabled the Japanese cotton industry to compete effectively with its chief contender. The strengthening of the domestic cotton market in Japan was sustained by improvement in the nation's purchasing power and by the successful cotton promotion campaigns.

Japanese consumers, however, unmistakably prefer cotton over chemical fiber products, and this marked preference has already shown an effect in the government's plans to slow the upward trend in chemical fiber production.

Japan has apparently come to the conclusion that, to compete strongly with other textile producers of the world, it must become a large exporter of high-value goods and of products manufactured with indigenous materials, in order to offset foreign exchange expenditures--that it can maintain neither markets nor a reasonable balance of payments with large-volume exports of low-value goods. Government

inspection assures that export items maintain quality standards and are sold at a fair price.

The future of the textile industry in Japan depends on many factors--some subject to control by the Japanese Government, but many beyond its control. The future welfare of the cotton textile industry as well as the chemical fiber industry may depend, to a substantial degree, upon the aggressiveness, imagination, and ingenuity of the industries' leaders, as well as their realistic appraisal of the production and marketing problems confronting each industry.

Japan will undoubtedly remain a large buyer of United States cotton. Any expansion of cotton imports, however, will result from the interplay of countless factors, not the least of which is a competitive price level for United States cotton.

POSTWAR DEVELOPMENT OF THE TEXTILE INDUSTRY

During World War II, both the cotton textile industry and the chemical fiber industry of Japan experienced tremendous destruction, some direct and some caused by the scrapping of machinery under government orders and the conversion of factories to other purposes.

The Cotton Textile Industry

In the years just after the war, the cotton textile industry recovered faster than the chemical fiber industry. This was due to the assistance of the Supreme Command of the Allied Powers and to the United States Government's program of making raw cotton available to help Japan's economic and industrial recovery and to raise textile consumption levels, which the war had drastically reduced both in Japan and in other countries of Asia and Europe.

Despite the early recovery in the cotton textile industry, however, Japanese mills have not yet reached the average 1934-38 mill consumption of some 3.4 million bales of cotton (see table 1). Two significant developments characterize the cotton textile industry of postwar Japan. One is the falling off of export volume. The loss of export markets accounts, in the main, for the reduction in total mill consumption of cotton in Japan since prewar years. Exports of cotton fabrics in 1938 totaled 2.2 billion square yards, or 66 percent of production in that year; but the ratio of exports to production dropped to 40 percent in 1955 and 35 percent in the first three quarters of 1956. Countries such as Iraq and the Union of South Africa, to which Japan shipped large quantities of cotton products in prewar years, have now developed substantial textile industries of their own. As a result, some of them have applied protective tariffs to reduce the inflow of foreign goods. For the same reason, other countries, such as Pakistan, which in early postwar years took substantial quantities of Japanese goods, now no longer use so much. The Japanese attempt to solve this problem is explored in the section entitled "Japanese Investments in Foreign Countries."

TABLE 1.--Cotton yarn and cloth: Production and raw cotton mill consumption in Japan, average 1934-38, annual 1938-40 and 1948-56

Year	Production		Raw cotton mill consumption[1]
	Yarn	Cloth	
	Million pounds	*Million sq. yd.*	*1,000 bales*[2]
Average:			
1934-38	1,372.7	4,047.2	3,367.6
Annual:			
1938	1,020.7	3,207.7	2,726.0
1939	1,042.3	2,951.0	2,536.0
1940	824.8	2,624.0	2,084.0
1948	273.4	924.1	639.0
1949	345.7	984.9	817.0
1950	517.7	1,517.9	1,218.0
1951	710.6	2,078.0	1,673.0
1952	748.7	2,158.0	1,775.0
1953	861.2	2,709.2	2,043.0
1954	931.9	3,039.1	2,206.0
1955	826.9	2,814.3	1,979.0
1956[3]	1,017.6	3,300.5	2,400.0
	Production and consumption as percentage of 1934-38 average		
	Percent	*Percent*	*Percent*
Annual:			
1955	60.2	69.5	58.8
1956	74.1	81.6	71.3

[1] Consumption by members of the All Japan Cotton Spinners' Association.

[2] 500 pound bales.

[3] Preliminary.

Japan Cotton Statistics and Related Data, 1956, The Cotton Economics Research Institute, Osaka, Tables No. 15 and 30.

Significant also is the higher quality of goods produced in postwar Japan. Finer yarns, both carded and combed, are coming from Japanese spindles; for example, the average count of cotton yarn produced in 1937 was size 27's--recently it has ranged around 31's. The production of combed yarns has also substantially increased.

In 1955, cotton mill consumption and cotton yarn production reached about 60 percent of the prewar level; in 1956, unusually prosperous conditions for the cotton textile industry resulted in cotton mill consumption at 71 percent of the prewar volume and yarn production at 74 percent. Yarn production exceeded 1 billion pounds for the first time since the close of

World War II. The average number of spindles operating during the prewar period was 8,261,000, compared with only 7,022,000 in 1955;[1] however, during the last part of 1956, operable spindleage rose to a postwar high of 9,071,660, 95.6 percent of which were in actual use.

After July 1956, when the government removed the production controls that had been in effect for the previous 14 months, cotton yarn production increased to 35 percent above the comparable period in 1955. At the close of 1956, only the specter of import controls against Japanese goods in various foreign countries and the possibility of renewed production controls in Japan limited the enthusiasm of the Japanese cotton textile people.

The Chemical Fiber Industry

Not until the Korean war boom was the chemical fiber industry able to recoup its pre-World War II position (see table 2). This industry, although its recovery rate was slower than that of the cotton industry, in 1951 surpassed its average 1934-38 production rate of 354 million pounds, and during 1955 more than doubled that rate. The recovery and growth of the chemical fiber industry was facilitated by direct government assistance in the form of preferential financial considerations, preferential tax rates, indirect devices such as restriction of foreign exchange for the purchase of raw cotton, and sanction of contracts to obtain foreign technical assistance. As a result of this rapid expansion, the industry in 1956 produced 981 million pounds of staple and yarn and 2 billion square yards of fabric.

Japan's chemical fiber industry produces three major types of products: (1) Viscose and acetate rayon staple fiber, (2) viscose and acetate rayon filament yarns, and (3) noncellulosic filament yarns and staple fibers.

Rayon staple fiber is a direct competitor of raw cotton in many basic end uses, because of its adaptability in use and its attractiveness in price. It is a real threat to cotton consumption in Japan, as in many other countries of the world. Japanese production, which in 1938 had totaled 327 million pounds, more than doubled in 1956, when it reached 689 million pounds and made Japan the biggest rayon staple fiber producer in the world.

In 1934-38 rayon filament yarn production averaged 241 million pounds a year; in 1956 it totaled 94 percent of this volume.

The production of noncellulosics began in Japan on a commercial scale in 1950, when 1 million pounds of vinylon and nylon were produced. This segment of the chemical fiber

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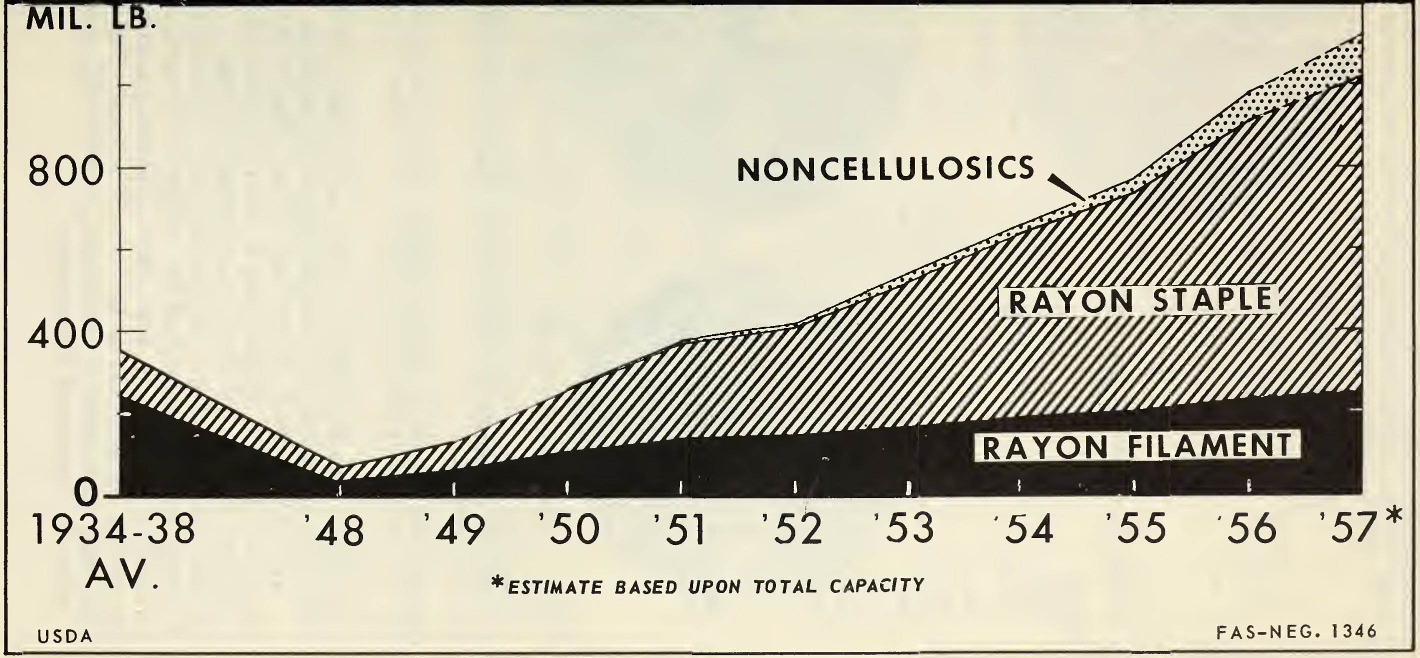
[1] Data from All Japan Cotton Spinners' Association; compiled by the Cotton Economic Research Institute.

PRODUCTION OF CHEMICAL FIBERS IN JAPAN
Average 1934-38, annual 1948-56, and capacity for 1957



*ESTIMATE BASED UPON TOTAL CAPACITY

USDA

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TABLE 2.--Rayon filament, rayon staple, and noncellulosics: Production in Japan, average 1934-38, annual 1938-1940 and 1948-56, and capacity for 1956 and 1957

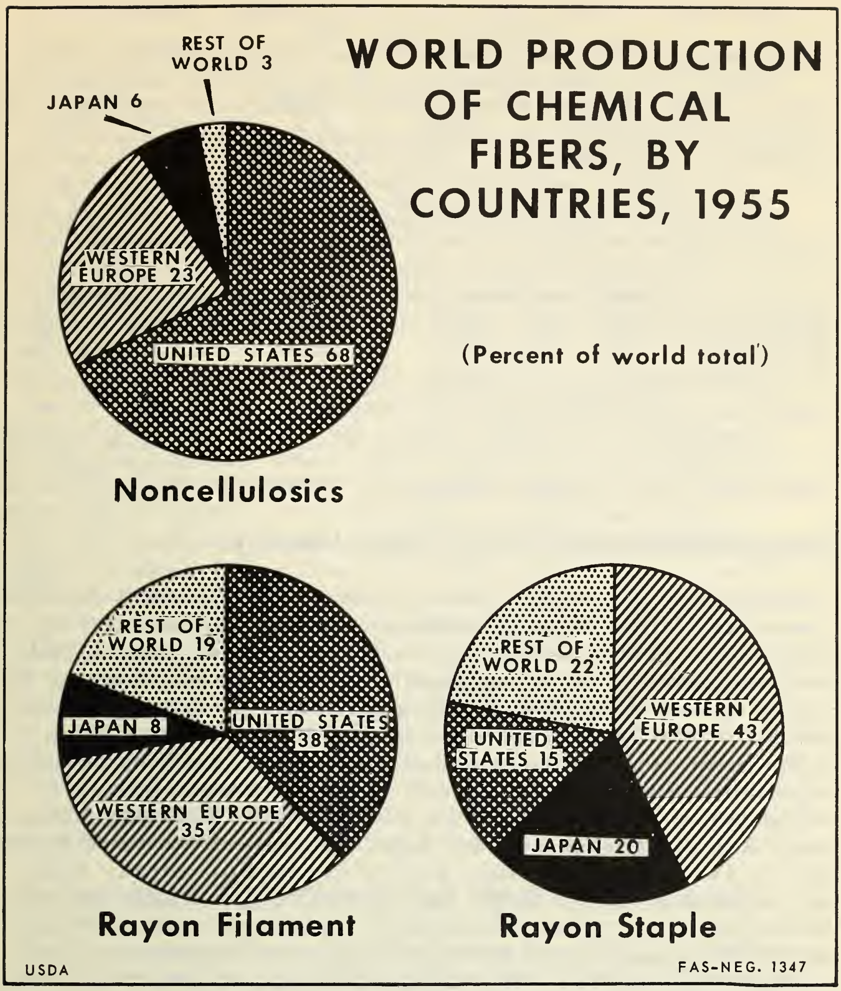
Year	Production			
	Rayon		Noncellulosics	Total rayon and noncellulosics
	Filament	Staple		
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*1,000 pounds*
Average				
1934-38	241,030	113,380	---	354,410
Annual:				
1938	213,905	327,210	---	541,115
1939	238,560	301,265	---	539,825
1940	216,095	285,815	---	501,910
1948	35,700	35,300	---	71,000
1949	66,800	59,600	---	126,400
1950	103,200	149,700	1,000	253,900
1951	137,900	230,800	7,000	375,700
1952	142,200	262,200	8,200	412,600
1953	163,300	357,500	14,400	535,200
1954	184,800	448,100	21,400	654,300
1955	195,400	536,700	35,700	767,800
1956	227,400	689,900	63,500	980,800
	Capacity[1]			
1956	229,000	660,000	73,800	962,800
1957	248,500	770,000	101,200	1,119,700
	1957 capacity as increase over production			
Annual:	*Percent*	*Percent*	*Percent*	*Percent*
1955	27	43	183	46
1956	9	12	59	14

[1] Capacity estimates for 1956 are as of March of that year; those for 1957 are as of December.

Compiled from records of Textile Organon, Textile Economics Bureau, New York; 1956 production data from Chemical Fibers Association, Osaka Branch.

industry, like the others, has undergone rapid expansion, and 1956 production reached about 64 million pounds.

Japan is second only to the United States as a producer of chemical fibers, producing a total of about three-quarters of a billion pounds in 1955, as compared with 1.6 billion in the United States and 2.1 billion for all of Western Europe. Table 3 compares the output of the major chemical-fiber producing countries in 1955; in that year Japan's production accounted for about 14 percent of the world's total. This relative position was undoubtedly enhanced in 1956 with the substantial increase in Japanese production.



WORLD PRODUCTION OF CHEMICAL FIBERS, BY COUNTRIES, 1955

(Percent of world total)

USDA

FAS-NEG. 1347

TABLE 3.--Rayon filament, rayon staple, and noncellulosics: Production in specified countries, 1955

Country	Rayon and acetate				Noncellulosics		Total rayon and noncellulosics	
	Filament		Staple					
	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total	Quantity	Percent of total
	Million pounds	*Percent*	*Million pounds*	*Percent*	*Million pounds*	*Percent*	*Million pounds*	*Percent*
Japan.........	195.4	8	536.7	20	35.7	6	767.8	14
United States.	865.1	38	395.6	15	379.3	68	1,640.0	29
Western Europe	796.0	35	1,184.3	43	130.8	23	2,111.1	38
Rest of world.	439.6	19	604.0	22	16.3	3	1,059.9	19
World total.	2,296.1	100	2,720.6	100	562.1	100	5,578.8	100

Compiled from records of Textile Organon, Textile Economics Bureau, New York.

Recent Developments in the Textile Industry

Indications of overexpansion in the textile industry in 1955 caused the Ministry of International Trade and Industry to appoint the Textile Industry Countermeasures Council, with the assignment of studying textile problems and recommending an overall long-range policy for textiles. This committee submitted the final draft of its report in December 1955. After much discussion based on the report, the Diet passed a regulatory measure designed to counteract the industry's weaknesses. This law, known as the Textile Industry Equipment Adjustment Emergency Law, became effective on October 1, 1956. Its provisions are not limited to cotton. They extend to any branch of the textile industry in which the MITI deems there is an excess capacity tending to cause instability within the industry and to hamper exports. Such provisions as adjusting additions of equipment among the sectors, converting productive facilities from one sector to another, and disposing of surplus equipment, if any, are expected to apply particularly to the cotton, silk, wool, linen, and spun rayon industries. Observers believe that the operation of this law will tend to encourage the growth of the noncellulosic and acetate rayon segments of the textile industry.

The Textile Industry Equipment Adjustment Emergency Law requires the registration of spinning frames and cloth tenters and prohibits the use of unregistered equipment. (Registration of looms and restrictions on their use were previously governed by the Small and Medium-Sized Enterprises Stabilization Law, enacted in 1955.) To assure proper operation of the law, the government established the Industry Equipment Deliberation Council, composed of members representing consumers, the industry, and labor.

After suitable analysis of the future demand for Japanese textile products vis à vis the productive capacity available, MITI is expected to propose that excess capacity be disposed of. In February 1957 came an announcement that the Government would buy 11,000 cotton looms and 5,000 silk and rayon looms from mills as a first step; according to informed sources, the plan is to eliminate 52,000 cotton looms and 33,000 silk and rayon looms by 1960. Some reduction in cotton industry spindleage also appears inevitable, especially in view of the large buildup of cotton spindles that occurred between the enactment of the regulatory measure and its effective date.

Several serious criticisms have been made against this measure. The most important, from the standpoint of cotton interests, is that it sets no definite limit on rayon staple spinning equipment. There are reports that the Japanese Government is thinking of halting the expansion of rayon staple fiber spindles at 3,100,000 as compared to the 2,950,000 presently installed. Even with this limitation, expanded production facilities for rayon staple yarns are expected to raise the output and lower prices, and thus disturb the cotton market, which is relatively sensitive to trends in the spun rayon market.

One important leader in the Japanese cotton textile industry has asserted that the registration of equipment will stop indiscriminate spindleage increases and give the industry a better understanding of its situation. Another has said that the law could serve as a basis for streamlining the industry if conditions take a turn for the worse. Meanwhile, the textile industry as a whole continues to prosper.

EXPANSION PLANS FOR THE TEXTILE INDUSTRY

Japan has the chronic problem of coordinating its unbalanced productive resources to the support of a rapidly growing population. Ever since the San Francisco peace treaty went into effect on April 28, 1952, the Japanese Government has given much attention to developing industrial and agricultural plans that would provide to Japan the optimum use of its resources and the maximum benefit to its economy. To this end, the government's Economic Planning Board in January 1956 published a detailed document entitled "Five-Year Plan for Economic Independence," which established blueprints for all segments of the Japanese economy for the Japanese fiscal years 1956-60. These plans represent the views of the government economists as modified by the interests of businessmen in the industries involved and by overall political and economic considerations.

The Government's Five-Year Plan

The guiding philosophy as related to the textile industry is set forth in the Five-Year Plan as follows:

> As for textiles, natural fibres goods are to be emphasized as exports whilst chemical and synthetic fibres will be increased in production to meet domestic demands.....As a result, the ratio of consumption of natural fibres against artificial fibres will be 6 to 4 in 1960 as compared with the ratio of 7 to 3 in 1954, so contributing to the self-sufficiency of the fibre industry.... In line with long-range trends in the world textile market and demands for a higher level of self-sufficiency in our country in future, the production of artificial fibres, such as acetate and other synthetic fibres, is to be expanded. The use of artificial rayon and mixed yarn and fabrics, instead of natural fibres, is to be encouraged, thereby to increasing (sic) the domestic consumption and export of artificial textile goods. Domestic consumption of natural fibres is to be gradually reduced and their exports are to be maintained through improvements of quality and reductions in cost. In the branch of spinning and weaving of natural fibres it is necessary to curtail equipment or convert it to other fields and in this case purchase of surplus facilities by the Government will have to be considered.

The Government's Eight-Year Plan

Though the basic philosophy remained, in July 1956 the Secretariat of MITI replaced these 5-year goals by new goals that extend through 1963. These revisions became necessary, according to Japanese officials, because many of the original estimates had already been exceeded and--according to recent data--would be exceeded again in 1956. Informed observers consider that most of the government's plans are comparatively cautious.

The significance of the new long-range production goals, which follow the trend established by the original plan, cannot be mistaken. For 1963 production of cotton yarn is scheduled at 102 percent of 1954 levels, but production of chemical fiber yarn and staple, at 218 percent (see table 4). This goal amounts to a total of 1.5 billion pounds, or approximately 71 percent of United States production capacity in 1956.

Rayon staple fiber production is slated to double by the end of 1963, and rayon filament production will almost double. Production of noncellulosic fiber will increase several times over: for example, nylon production is scheduled for a fivefold increase, from 11.8 million pounds in 1954 to 64.0 million pounds in 1963; and vinylon production, which in 1954 was only 8.1 million pounds, is expected to increase fifteenfold to 120.0 million pounds. It is interesting to note that vinylon is a product of Japanese invention, made from polyvinyl alcohol. It has physical properties closely akin to those of cotton.

TABLE 4.--Rayon and noncellulosic fiber and cotton yarn: Production in Japan for 1954 and 1955 compared with the Japanese Government's goals for 1963

Commodity	Production		Goal for 1963	
	1954	1955	1963	Percentage of 1954
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*Percent*
Rayon staple fiber, total.......	467,112	564,928	949,000	203
Viscose......................	461,579	558,252	909,000	197
Acetate......................	5,533	6,676	40,000	723
Rayon filament yarn, total......	188,145	200,348	336,000	179
Viscose......................	187,597	198,368	296,000	158
Acetate......................	548	1,980	40,000	7,299
Noncellulosics, total..........	19,885	37,599	184,000	925
Vinylon......................	8,135	16,340	120,000	1,475
Nylon........................	11,750	21,259	64,000	545
Rayon and noncellulosics, fiber and yarn, total..............	675,142	802,875	1,469,000	218
Cotton yarn, total.............	972,000	905,000	989,000	102

Production figures from official records of the Foreign Agricultural Service. Goal figures from the 8-Year Plan of the Ministry of International Trade and Industry, Japan.

Japan Chemical Fibres Association Long-Range Plan

Government estimates run through 1963; but the Japan Chemical Fibres Association--an organization of manufacturers and spinners of rayon, acetate, and other synthetic fibers--has projected production estimates as far as 1975. Trade reports indicate that high profits in the rayon staple business stimulated chemical fiber producers to embark on large-scale expansion. The association's long-range proposal provides for tripling the production of chemical fibers in Japan between 1955 and 1975, to reach a total of more than 2.7 billion pounds--85 percent above the government's latest goal for 1963.

Immediate expansion plans for the rayon staple fiber segment call for production capacity to reach 860 million pounds by mid-1957. In 15 years, annual output is scheduled to be 1.3 billion pounds, compared to the 1955 figure of 537 million. The association has blueprinted significant increases also for acetate rayon, vinylon, nylon, and vinylidene, as well as for two fibers new to Japan--acrylic synthetics and estelic synthetics.

The rayon producers' goals for staple fiber and filament yarn for 1956 were almost the same as the final goal for 1960 in the government's original 5-year plan. This fact undoubtedly influenced the government in its revision of the earlier plans before they were 2 years old. MITI, it is reported, has advised rayon producers to reduce their short-term production goals. This move has slackened the expansion rate, although there appears to be no agreement yet on coordinating long-range government and short-range industry plans. The government can curb expansion indirectly by controlling foreign exchange allocations for imports of rayon pulp and of basic chemicals for the production of rayon--materials that will be required in larger volume to carry out these industry goals. If necessary, it is reported, the government is prepared to use this device.

Time alone will tell which of the plans for the chemical fiber industry has the better chance of success. The more extensive plans of the industry will undoubtedly run into higher raw material costs, increased foreign exchange requirements for imported raw materials, export markets that will not respond advantageously to increased supplies, and other difficulties. To a less extent, the Government's plans are likely to face the same troubles.

Of great significance to cotton interests is the fact that the cotton textile industry in 1956 also exceeded the government's 1963 goals, although only by about 3 percent. Cotton industry leaders are reported to have felt that both the original and the revised cotton import plans of the Economic Planning Board were too conservative; and, at the time the plans were drawn, they pressed for reconsideration should future conditions warrant. It later became apparent that increased imports were inevitable. In 1956, cotton mill consumption alone totaled 2.4 million bales, about 7 percent more than the total original import goal. Developments late in 1956 and early in 1957 seemed to disrupt the government's carefully laid plans for the chemical fiber industry. The market for rayon staple fiber softened, stocks rose to unprecedented levels, and prices fell to a figure that approximated production costs. Late in 1956, cotton's competitive position improved as its price responded to the United States Government's export pricing policy. The price advantage that rayon staple fiber had historically maintained almost disappeared.

Despite this heartening condition, if the expansion plans for the chemical fiber industry are fulfilled without modification, they are capable of relegating the cotton textile industry to second place. Three officials from the Canadian textile industry who visited Japan in 1955 assessed the textile expansion plans as follows: [2]

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[2] Primary Textile Institute. The Textile Industry in Japan. Toronto and Montreal. 1956. P. 22.

> The significant point about these figures is that they are not merely a forecast of probable trends, but more of a blueprint which the authorities are capable of having accomplished.

Late in 1956, MITI indicated that it would positively cooperate with the cotton promotion program because of the progress in attainment of the chemical fiber industry goals and Japan's improved foreign exchange position. This step indicated a change of thinking within the government and may have been a turning point for cotton.

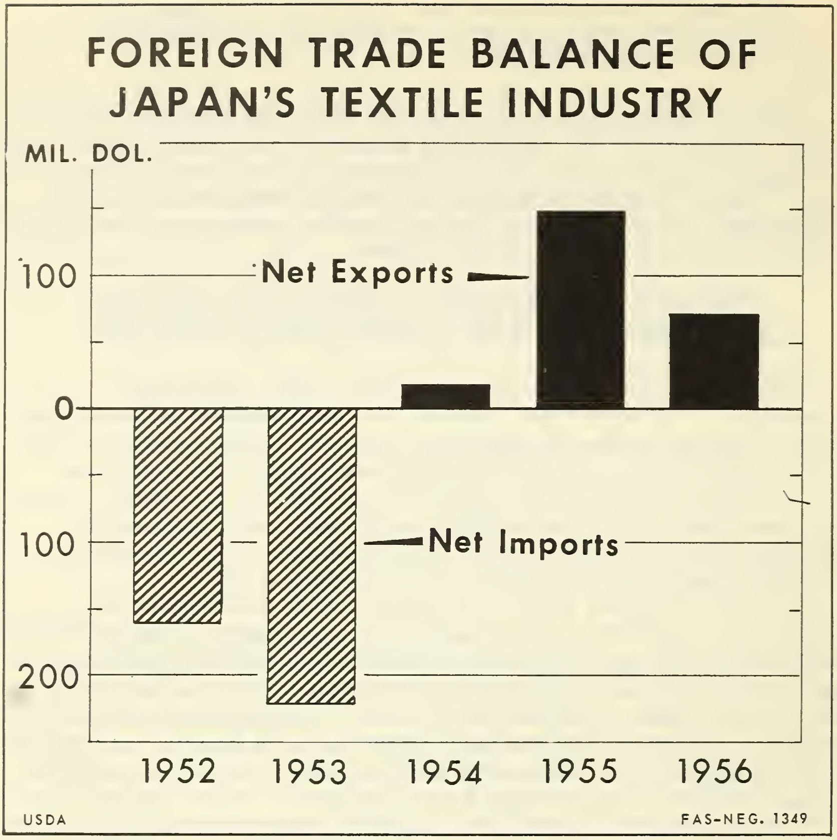
FOREIGN EXCHANGE BALANCES AND IMPORT REQUIREMENTS FOR THE TEXTILE INDUSTRY

In the Japanese Government's long-range planning, great emphasis is placed upon industries that take the best advantage of Japan's most abundant resource--labor--and put the least strain on its scarce foreign exchange. For textiles, the raw-material cost is about 50 percent of the value of the finished yarn. The raw-material cost of metal and metal products, on the other hand, is only some 10 to 20 percent of the value of the semi-finished product.

Since the prewar years, the position of textiles in the Japanese economy has changed. Prewar Japan depended upon textiles for 50 percent of its export earnings and upon metals and machinery for only 10 percent. The textile industry as a whole has had a sizable and favorable foreign exchange balance for the past 3 years (see chart on next page); but within that industry, the cotton and wool segments are responsible for a net foreign exchange drain, whereas the chemical fiber industry provides a net gain. In 1954, the chemical fiber industry's favorable balance topped $100 million; in 1955, it exceeded $150 million; and in 1956, was more than $200 million (table 5). This is the heart of the cotton industry's problem in Japan.

Raw Cotton Requirements

All of the raw material for the cotton textile industry must be imported. Historically, the value of cotton goods exports has fallen short of the cost of raw cotton imports and the foreign exchange balance has been unfavorable. In 1935-39, the value of cotton yarn and fabric exports averaged only 80 percent of the value of raw cotton imports. In 1954 this ratio dropped to an estimated 70 percent. The Japanese have felt it imperative to reverse this trend, and have put strong emphasis on exports of cotton products. These efforts are producing results. Even though international competition in the textile export trade has been stiffening, the cotton textile industry has earned more foreign exchange for Japan over the last 3 years than it did in all but 1 previous postwar



year. Another Japanese solution to this problem has been to narrow the spread between the cotton industry's foreign earnings and expenditures by trying to hold down domestic consumption of cotton products. However, in 1956 this program began to meet consumer resistance. Late in the year, there were growing indications that the cotton promotion program had had a decided influence on consumers and top government officials as well.

Wood Pulp and Chemical Requirements

At present production rates, Japan can produce practically all of the raw materials its chemical fiber industry needs except wood pulp, 20 percent of which must be imported. In 1956, imports of wood pulp for the chemical fiber industry were valued at $26.5 million; exports of the industry were valued at $235.3 million, leaving a favorable balance of about $208.8 million.

TABLE 5.--Foreign exchange balance of Japanese cotton and chemical textile industries, 1949-56

Item	1949	1950	1951	1952	1953	1954	1955	1956[1]
	Mil. dol.	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*	*Mil. dol.*
Cotton textile industry:								
Imports of raw cotton..	123.4	277.5	495.3	430.2	396.5	432.2	383.2	479.9
Exports of cotton products[2]............	160.1	246.8	377.0	246.4	232.6	331.9	360.8	415.6
Foreign exchange balance..........	36.7	-30.7	-118.3	-183.8	-163.9	-100.3	-22.4	-64.3
Chemical textile industry:								
Imports of rayon pulp[3].	---	5.8	18.9	15.0	16.7	20.5	16.3	26.5
Exports of chemical fiber products[4]......	14.4	53.3	112.9	86.6	95.5	128.6	168.4	235.3
Foreign exchange balance..........	14.4	47.5	94.0	71.6	78.8	108.1	152.1	208.8
Net exchange position of cotton and chemical textile industry.......	51.1	16.8	-24.3	-112.2	-85.1	7.8	129.7	144.5

[1] Preliminary. [2] Includes exports of cotton yarn, cotton fabrics and all clothing. From statistics available, it was impossible to separate cotton clothing from clothing made of other fibers. Actual values of cotton goods exports were lower than those shown in this table since some clothing exports were of other fibers. [3] Includes sulfite rayon pulp, sulfate rayon pulp, and cotton linter pulp. [4] Includes exports of rayon filament yarn, rayon fabrics, rayon staple yarn, spun rayon fabrics. Clothing is not included (see footnote 2). Actual values of rayon goods exports were probably higher, since some clothing included with cotton goods was made of rayon.

Economic Statistics of Japan, 1955, Bank of Japan, Tokyo, and Monthly Return of the Foreign Trade of Japan, Japan Tariff Association, Tokyo.

Informed persons differ on whether the wood pulp supply problem will frustrate the expansion plans of the industry. One American newspaper observer estimated that by 1960 the Japanese rayon industry will need 500,000 tons of alpha pulp per year, not more than 300,000 tons of which can be supplied from domestic sources.[3] Some official estimates are considerably more optimistic, claiming that 95 percent of all pulp requirements for chemical fiber and other industries can be met by local production. Traditionally, Japan's imports of dissolving wood pulp have come from Canada, the United States, and Scandinavia. Since wood pulp is the largest raw material cost item in the manufacture of rayon, the Japanese have made strenuous efforts to find low cost supplies. Japanese pulp enterprises have been created in Southeast Asia, and negotiations are under way for a dissolving pulp mill in Alaska. Informed sources estimate that once the mill is put into operation, this one source can meet half of Japan's import requirements of dissolving wood pulp. The plant will have a capacity of 100,000 tons per year and will ship all of its production to Japanese pulp and rayon companies.

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[3] Journal of Commerce, New York. Mar. 21, 1956. P. 15.

As for other essential raw materials, in 1955 the Japanese chemical fiber industry consumed 48.7 percent of the country's total caustic soda production, 94.1 percent of its carbon disulfide production, and 10.1 percent of its sulfuric acid production.[4] The industry's bold expansion plans may require the importation of additional raw materials for the production of caustic soda and sulfuric acid--a situation which would run up the cost of rayon production and increase foreign exchange requirements for the industry.

Table 6 shows the raw cotton and pulp import requirements originally envisioned by the 8-year plan. MITI projected 1963 cotton imports at a total of 2,522,000 bales, 22 percent over the 1955 level, but substantially below the prewar average cotton imports of 3,474,600 bales (of 500 pounds gross weight). Imports during the calendar year 1956 were actually about 2,866,000 bales, compared to the goal of 2,239,000 bales for the 1956 Japanese fiscal year (Apr.-Mar.), which was later raised to 2,389,000 bales. Import goals for fiscal 1957 have now been tentatively established at 2,890,000 running bales.

TABLE 6.--Cotton and wood pulp: Projected imports of Japan, 1955-63

Year[1]	Cotton	Wood pulp
	1,000 bales	*Short tons*
1955..........	[2] 2,074	[2] 74,956
1956..........	2,239	126,764
1957..........	2,360	110,230
1958..........	2,372	114,639
1959..........	2,389	124,560
1960..........	2,408	144,401
1961..........	2,446	155,424
1962..........	2,483	168,652
1963..........	2,522	180,777

[1] Fiscal year, Apr. 1 to Mar. 31.
[2] Actual.

8-Year Production Plan for the Textile Industry, Ministry of International Trade and Industry, Japan.

Undoubtedly, some modification in the long-range import plans for cotton will also occur. Japanese Government officials have already indicated a possible revision of the 1960 goal to 2,600,000 bales, compared to the 2,408,000 bales carried in the 8-year plan. Three basic premises would support such a revision: (1) The mills' desire for an improved stock position; (2) the decline in the price of cotton vis-a-vis rayon staple fiber; and (3) the increased demand for cotton goods in the Japanese home market. The government might also be willing to raise cotton imports rather than spend additional foreign exchange for the raw materials which would be required by an expanded chemical fiber industry. Whatever the cause, periodic adjustments to the changing situation can be expected. Present indications are that these import revisions will turn in favor of cotton if world cotton maintains a competitive price relationship with rayon staple fiber. In this regard, the importance of the price level of U. S. cotton cannot be overemphasized.

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[4] Japan Chemical Fibers Association. Outline of the Chemical Fiber Industry in Japan. Tokyo. April 1956. Pp. 9-10.

If Japan cannot manage to increase its imports of cotton, it is likely that the influence of the domestic Japanese cotton industry will wane in favor of the expanding chemical textile industry at home and the Japanese-influenced textile industries abroad. Such a turn of events might be detrimental to Japan's entire domestic textile economy.

PRICES OF RAW COTTON AND RAYON STAPLE FIBER AND YARN

Raw Material Prices

An important influence on the rate and the extent of rayon's movement into traditional cotton end-use markets is the long-term relationship between cotton and rayon staple fiber prices. The Japanese buyer will generally pay about 30 percent more for cotton than for rayon. For the 2-1/2 years prior to April 1956, the prices of raw cotton (United States Middling 1-1/32-inch) ranged from 29 to 36 percent above the prices of rayon staple (see table 7). Beginning in March 1956, declines in cotton prices considerably reduced the relative price handicap of raw cotton. In fact, by August 1956 raw cotton prices were only 2 to 3 percent above the price quotations for rayon staple.

When the two fibers, on a gross weight basis, became highly competitive in price, rayon producers were forced to reduce rayon staple fiber prices. Thus, in October 1956 they reduced prices to 28.06 cents per pound. By the end of 1956, prices had dropped further, to about 26.94 cents, and in February 1957 to 24.72 cents--a level which is believed to approximate production cost. This drop further increased the spread between the two raw materials as the price of raw cotton began to creep slowly upward. Booming conditions in the cotton textile industry after August 1956, which raised Japanese imports of cotton to a postwar high, indicate that the improved price position of cotton had definitely increased cotton's competitive strength in the Japanese textile industry. If the price of United States cotton rises significantly the price differential between raw cotton and rayon staple fiber may once more become sufficient to increase the use of

TABLE 7.--Cotton and rayon staple fiber: Price per pound and price relationship, annual 1952-55 and by months, January 1956-February 1957

Year and month	Rayon staple fiber 1.5D X 1-3/4"	Cotton U.S. M 1-1/32" c.i.f. Japan	Price relationship of cotton to rayon
	Cents	*Cents*	*Percent*
1952	34.17	41.11	120.3
1953	31.94	37.60	~~111.7~~
1954	30.28	39.19	129.4
1955	28.33	38.59	136.2
1956:			
January	29.17	39.12	134.1
February	29.72	39.20	131.9
March	29.72	38.93	131.0
April	29.72	34.09	114.7
May	29.72	33.20	111.7
June	29.44	32.09	109.0
July	29.44	31.00	105.3
August	29.44	30.37	103.2
September	29.44	30.00	101.9
October	28.06	30.90	110.1
November	26.94	31.65	117.5
December	26.94	32.01	118.8
1957:			
January	26.39	32.05	121.4
February	24.72	32.29	130.6

Monthly Survey of Cotton, Rayon and Synthetic Fiber Industry; Cotton Economics Research; International Cotton Advisory Committee, Quarterly Bulletin, October 1956.

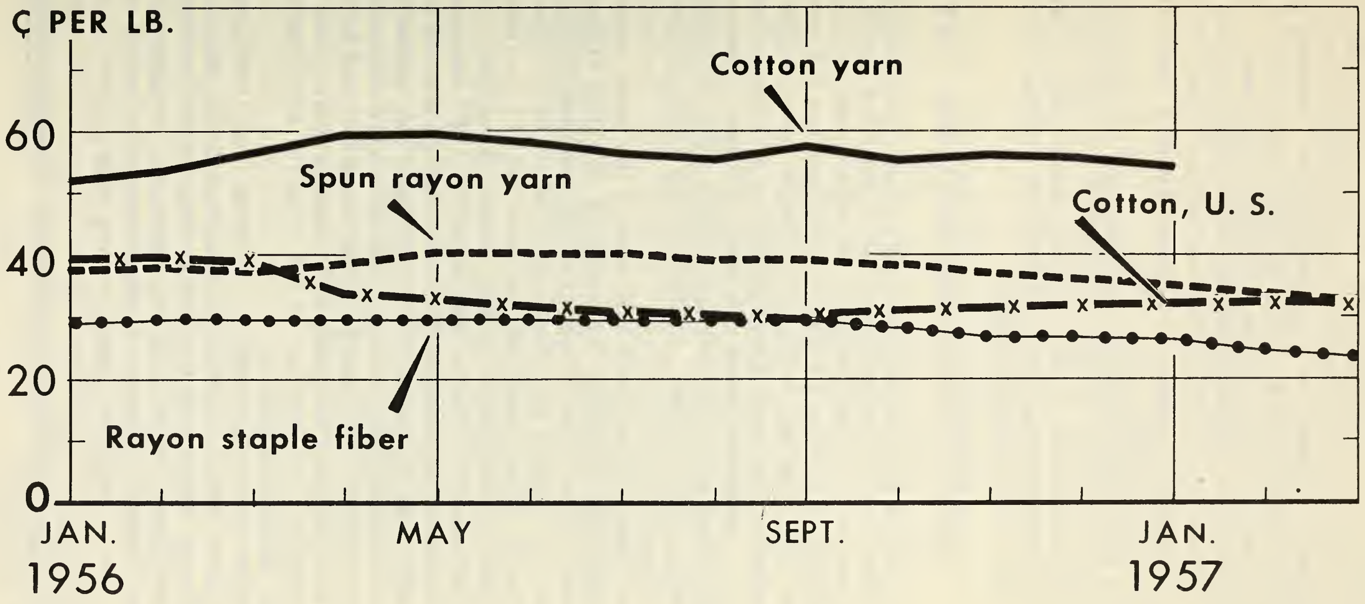
rayon staple fiber and to offset the recent competitive gains of cotton.

Yarn Prices

The price differential between cotton yarn and rayon yarn is generally substantially greater than that between raw cotton and rayon staple fiber. In the long run, this condition can be partly explained by the greater waste in spinning cotton, by technological differences, and by the relatively stronger demand for Japanese cotton yarns. In the short run, temporary imbalances in markets for either cotton or rayon yarns may cause wide price gyrations. Such imbalances may originate independent of the market for the raw fiber, but eventually will influence its market price.

Changes in prices of raw cotton and rayon staple fiber are not readily, or at least immediately, reflected in yarn prices. This stickiness is due in part to various factors that affect

COTTON AND RAYON STAPLE FIBER AND YARN: Price per pound in Japan, by months, 1956-57



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the market for semiprocessed material but do not bear upon the markets for raw material, and in part to the time lag involved in passing on changes in raw material prices. In 1956, for instance, cotton yarn prices did not respond proportionally to the drop in raw cotton prices, but actually trended in the opposite direction for 6 months of the year. Toward the year's end, the spread between raw cotton prices (United States Middling 1-1/32-inch) and cotton yarn (20's) was 23.54 cents, compared to the 12.82-cent spread that existed at the beginning of the year.

Other economic factors being equal, the long-range price trend for a finished product must fall in line with the trend of the raw material costs. Price, therefore, is an important factor in determining the competitive position of rayon staple fiber and raw cotton in Japan.

RAYON STAPLE RAW MATERIAL COSTS

The cost of production for any industrial commodity in a particular firm is generally a well-guarded secret. Figures on the cost of raw materials, overhead, amortization, the productivity and cost of labor, charges for the use of capital, and the like, are not readily available for a single company nor, usually, for an industrial group of companies. In 1953 a leading Japanese rayon company official made a study that compared the costs of raw materials used in producing viscose rayon staple fiber, in Japan, the United States, and the United Kingdom.[5]

This study showed that the cost of the four most important raw materials in Japan averaged 34 percent higher than in the United States and 28 percent higher than in the United Kingdom (see table 8). The fuel used in rayon plants is generally coal. Since coal prices were higher in Japan than in either the United States or the United Kingdom, the cost spread between the three countries in 1953 was even greater when fuel was included in the cost estimates. In computing total unit costs of production, not only raw material costs must be considered, but the cost of labor, amortization of capital investment, management charges, and other costs which are affected not only by company policy but by government policies, as well as by the general level of economic activity within a country.

With the above limitations in mind, the 1953 input estimates were used to calculate the cost of the four most important raw materials in 1956 for the three countries involved in the original study. Table 8 shows the results of this comparison. While significant reductions have occurred in the cost of rayon pulp in Japan, rayon pulp prices have held

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[5] Kashu, Ekizo. "The Chemical Fiber Industry". In Oriental Economist, October 1953. Pp. 511 and 512.

TABLE 8.--Rayon staple fiber: Calculated cost of the four principal raw materials, in Japan, the United States, and the United Kingdom, 1953 and 1956

Commodity	1956					
	Raw material prices per pound[1]			Value of raw materials per pound of staple[2]		
	Japan	United States	United Kingdom	Japan	United States	United Kingdom
	Cents	*Cents*	*Cents*	*Cents*	*Cents*	*Cents*
Rayon pulp...............	10.1	9.2	9.1	11.4	10.5	10.3
Caustic soda.............	5.7	4.5	3.2	4.6	3.6	2.5
Sulfuric acid............	.8	1.1	1.4	1.4	1.3	1.6
Carbon disulfide.........	5.9	5.4	8.3	2.0	1.8	2.8
Total................	--	--	--	19.4	17.2	17.2
	1953					
Rayon....................	10.8	9.2	8.3	12.2	10.5	9.3
Caustic soda.............	5.8	2.7	3.0	4.6	2.2	2.4
Sulfuric acid............	.7	.9	1.4	1.1	1.0	1.6
Carbon disulfide.........	8.1	4.9	8.3	2.7	1.7	2.8
Total................	--	--	--	20.6	15.4	16.1

[1] Average quoted prices. Companies having purchase contracts with prime suppliers would have lower raw material costs than those shown here.

[2] The input ratios used in this table are those reported by Mr. Ekizo Kashu in his 1953 study of the chemical fiber industry. The quantities of raw material per pound of viscose rayon staple fiber are as follows: 1.13 pounds of rayon pulp; 0.80 pounds of caustic soda; 1.70 pounds of 50^0 Bé sulfuric acid or 1.14 pounds of 66^0 Bé sulfuric acid; and 0.34 pounds of carbon disulfide.

1953 data, The Oriental Economist, October 1953, p. 511; 1956 data, from records of the Foreign Agricultural Service.

steady in the United States since 1951. All other raw material prices have advanced in the United States; but in Japan, from 1953 to 1956 caustic soda prices were reduced 2 percent, carbon disulfide prices dropped 27 percent, and the price of sulfuric acid--the only raw material for which the price advanced--increased 14 percent but still did not reach the United States price level.

On the basis of this computation, it is evident that in 1956 the relationships of raw material production costs changed markedly among the three countries. Though Japan still has higher raw material costs than the other two major producers, its costs have dropped 6 percent while those of the United States and the United Kingdom have increased 12 percent and 7 percent; thus, the spread in costs has narrowed.

The raw material cost in 1953 was estimated at 72.8 percent of the total cost, including coal, of producing rayon in

Japan--a higher ratio than in either the United States or the United Kingdom. Probably raw material costs no longer require so large a percentage of the total Japanese expenditure for the production of rayon staple fiber. With the reductions in raw material costs, and with a decided advantage in labor costs, Japan's competitive position in international markets has improved in the last 3 or 4 years. The Economic Planning Board undoubtedly takes this fact into consideration when approving the expansion plans of the chemical fiber industry.

Since 1953, in all three countries there have undoubtedly been technological advances in new and efficient plants--particularly in the recovery of used chemicals. Wood pulp of higher cellulose content is also used by some companies. For these reasons, the material inputs may be somewhat overstated for present-day comparisons. If such technological advances occurred to the same degree in each of these countries, the 1953 measures of physical inputs would be equally distorted for all three.

The prices shown in table 8 for the four most important raw materials are the average quoted prices for the year 1956 in each of the three countries. Individual large companies can purchase raw materials at a much lower contract price if their volume of purchases is sufficiently large. To the extent that individual producers are able to thus reduce their raw material costs, the quoted prices used in this study would not be representative.

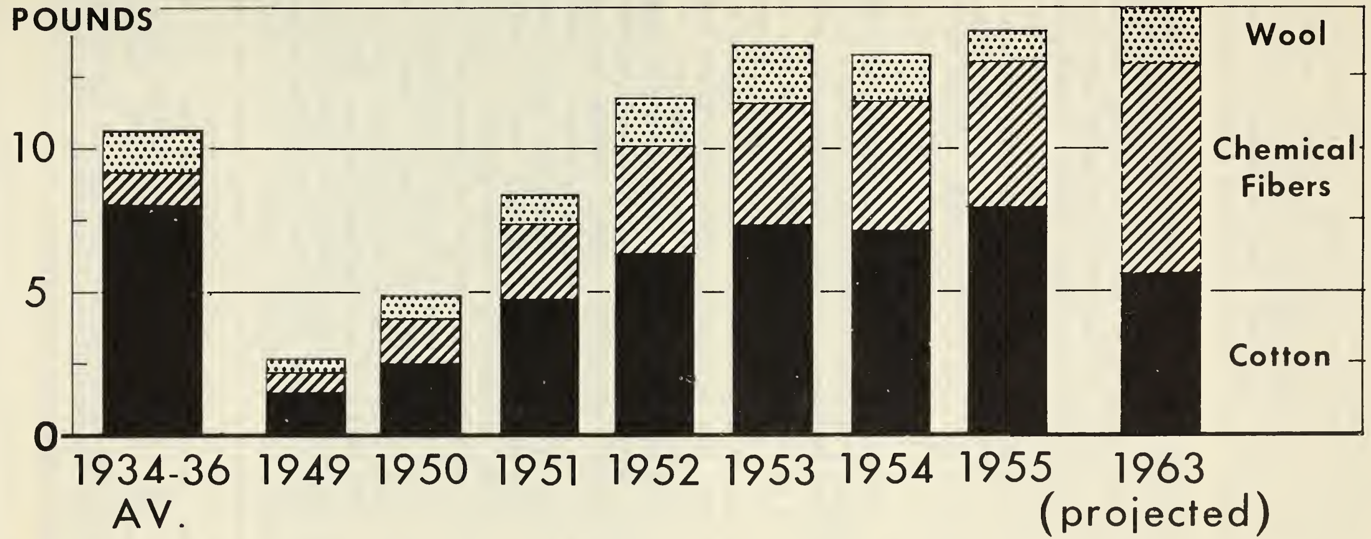
DOMESTIC CONSUMPTION OF TEXTILES

As a measure necessary to the fulfillment of the original Five-Year Plan, the Economic Planning Board announced that the use of rayon and rayon mixed fabrics was to be encouraged over that of natural fibers, with a view to increasing the domestic consumption and export of chemical fiber products. Reduction in the domestic consumption of natural fibers and the maintenance of their exports, through improvement of quality and reduction in cost, were important aspects of achieving a balanced textile trade position.

Consumer purchasing habits may not be following the pattern set out by the government planners. A consumer preference study conducted by the All Japan Cotton Spinners' Association in February 1954 showed the relative strength of cotton and the weakness of chemical fiber products in the Japanese home market. Of the families interviewed, 27 percent reported they did not have enough cotton goods, compared with about 10 percent who declared they did not have enough chemical fiber goods. About 40 percent of all families surveyed stated that they did not require any chemical fibers (presumably they did not use these products), whereas practically 100 percent used cotton. The detailed survey by end

COTTON, CHEMICAL FIBERS, AND WOOL:

Per capita consumption in Japan, average 1934-36, annual 1949-55, and projected 1963



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use pointed to a predominant demand for cotton, next to wool, for outer clothing and other end uses; and except for overcoats, even in outer clothing, cotton was considered generally equal to wool. Except for socks, stockings, and women's dresses, chemical fibers were not so widely used as the survey analysts expected. Studies made as late as last year continued to bear out consumer preference for cotton in most end uses.

Despite these preferences, however, textile consumption patterns in Japan have shifted significantly in recent years, as shown in the chart above. Average annual consumption of cotton, rayon, and wool for 1934-36 was 10.7 pounds per person; by 1955 annual per capita consumption climbed to around 14.1 pounds. Significantly, however, the relationships of the three fibers to the total changed substantially between 1938 and 1955. Cotton dropped from its prewar position of 75 percent to 56 percent, rayon increased from 11 percent to 36 percent, and wool decreased from 14 to 8 percent.

The total aimed at by the Japanese Council for General Policy on Textiles for the year 1963 is 14.97 pounds. Government estimates of home consumption patterns by 1963 are: 38 percent for cotton, 48 percent for chemical fibers, and 14 percent for wool. These plans, however, represent government aspirations, and under Japan's relatively free economy, the decisions which determine the success of these plans are made largely by the consumer.

Signs have already been observed that indicate a change of thinking within the Japanese Government in respect to the competitive aspects of cotton, rayon, and other synthetic fibers. For instance, official plans for 1957 per capita consumption of cotton for clothing are reported to show a higher level than the one predicted for 1956. In addition, the level of domestic demand for cotton goods during the last half of 1956 exceeded earlier expectations by 4,000 bales per month. This rise was attributed to the stabilized price and strong consumer preferences for cotton. These changes may indicate a reversal of the severe trend in favor of chemical fibers which had been outlined in the official long-range plans of the Ministry of International Trade and Industry. Moreover, MITI withdrew its objection to the cotton promotion campaign and began to lend active support to encouraging the domestic consumption of cotton. Cotton promotion campaigns, jointly sponsored by the U. S. Department of Agriculture, the Cotton Council International, and the Japanese cotton textile industry, are undoubtedly responsible in part for increased consumer interest in cotton products. Taking a leaf from cotton's book, some chemical fiber industry leaders have indicated an interest in embarking upon similar domestic market expansion activities.

TEXTILE EXPORTS

Japan has long been dependent upon imported basic raw materials, which it has paid for largely by exports of fabricated goods. Even though Japan must trade to live, in 1955 the per capita value of its foreign trade was less than one fourth of the per capita value of U. S. exports. Textiles account for an important, though decreasing, share of Japan's trade.

In an effort to enhance its position, Japan has instituted several interesting measures to assure a good reputation abroad for its textile products. The Export Control Law of Japan provides that any textile article exported must meet certain quality standards. For this purpose, inspection foundations, registered and recognized by the government, or operated under its supervision, have been established. These foundations operate over 500 inspection centers throughout Japan. In addition, upon request the Japan Textile Color Design Center, established in March 1955, registers designs for export textiles, and has been able to reduce to a minimum the number of complaints related to design infringement. MITI itself checks export prices to determine their appropriateness and avoid charges that Japanese goods are being dumped.

Trends

On the basis of the last year for which complete annual statistics are available (1954), Japan ranked second only to the United States in exports of chemical fiber products, some $200 million worth, as compared with a value of $215 million for the United States.[6] Japan's principal markets are Asia and Africa. However, it is rapidly developing markets in North and South America, Europe, and Australia. Export trends in the rayon industry have shown strength in recent years. Since 1954, about 40 percent of all Japanese production of filament yarns has been exported (see table 9). Of these exports, 80 percent were cloth and less than 20 percent were yarn. Rayon staple manufacturers have shown the same high level of dependence on exports; since 1954 they have shipped abroad about 30 percent of total output. In contrast, though more than 75 percent of cotton cloth production was exported during 1934-36, this ratio dropped to 38 percent in 1955.

Goals

Recognizing the importance of expanding exports and maintaining a favorable foreign exchange position, the

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[6] Japan Chemical Fibres Association. Outline of the Chemical Fiber Industry in Japan. Tokyo. April 1956. Pp. 8-9.

TABLE 9.--Rayon products: Ratio of exports to production in Japan, 1952-56

Year	Filament yarn			Staple		
	Production of yarn	Exports of yarns and fabrics	Exports as percentage of production	Production of staple	Exports of staple, yarns and fabrics	Exports as percentage of production
	1,000 pounds	*1,000 pounds*	*Percent*	*1,000 pounds*	*1,000 pounds*	*Percent*
1952.....	142,191	50,856	35.8	262,188	48,703	18.6
1953.....	163,259	57,349	35.1	357,533	63,931	17.9
1954.....	184,852	63,662	34.4	448,065	121,496	27.1
1955.....	195,352	78,495	40.2	536,748	194,083	36.2
1956.....	227,395	115,950	51.0	689,921	198,216	28.7

For years 1952-55, The Oriental Economist, Vol. XXV, No. 555, January 1957, pp. 29 and 30; for 1956, special report of the agricultural attaché in Tokyo.

Economic Planning Board originally expected that the value of all Japanese exports would increase from the $1.5 billion of 1954 to $2.66 billion by 1960; later revisions by MITI increased the 1960 goal to $3.26 billion and set a 1963 goal of $3.68 billion. The 1963 goal represents a 58-percent increase over actual exports in 1955. The basic philosophy governing this facet of the economic self-sufficiency plan is set forth as follows:

> In the light of the future trends of world markets and the geographical and economical position of our country, such expansion of the export trade is expected to be attained by increases in the export of goods which require skilled techniques in manufacturing and of which the production is efficient; goods whose value is largely dependent on freight; goods which will serve to strengthen the industrial system and will make possible larger and larger exports in the future; special products of our country capable of earning much foreign currency and goods which can be manufactured out of domestic raw materials... A steep increase in goods exportable to the dollar area is to be sought... Thus, it is expected that in future imports from the sterling and the open-account areas will see a considerable increase while those from the dollar area will remain nearly stationary and exports to the dollar area will show a big increase.

The goals projected for textile exports reflect this philosophy. For 1963, exports of all textiles are projected at 138 percent of the 1955 values. Exports of cotton yarns and fabrics are projected at 87 and 116 percent respectively of the value of 1955 exports; but exports of rayon staple fiber are forecast at 932 percent of 1955, rayon staple and filament fiber yarn at 189 percent, and rayon fabrics at 174 percent. In terms of quantity, projected exports and actual exports in 1955 of cotton and rayon products are compared in table 10. In these projections, exports of all clothing--cotton, rayon, and other fibers, including silk and wool--are

TABLE 10.--Cotton and rayon products: Exports from Japan for 1955 and projections for 1957 and 1963

Commodity	1955	Projections		1955 as percentage of--	
		1957[1]	1963[2]	1957	1963
	1,000 pounds	*1,000 pounds*	*1,000 pounds*	*Percent*	*Percent*
Raw materials:					
Rayon staple.........	4,828	25,000	45,000	518	932
Yarns:					
Cotton, total........	30,556	[3] 27,000	26,600	88	87
Rayon, total.........	59,338	85,000	112,000	143	189
Filament...........	19,093	33,000	44,000	173	230
Staple.............	40,245	52,000	68,000	129	169
	1,000 sq. yd.	*1,000 sq. yd.*	*1,000 sq. yd.*		
Fabrics:					
Cotton, total........	1,250,061	[3] 1,300,000	1,450,000	104	116
Rayon, total.........	925,436	1,440,000	1,614,000	156	174
Filament...........	377,346	540,000	674,000	143	179
Staple.............	548,090	900,000	940,000	164	172
	1,000 dollars	*1,000 dollars*	*1,000 dollars*		
Clothing[4].............	115,472	([5])	135,300	([5])	117

[1] Targets for Japanese fiscal year beginning Apr. 1, 1957, established by Ministry of International Trade and Industry and Japan Synthetic Export Association.

[2] Forecast based on 8-year Plan of MITI.

[3] Report of the Special Cotton Cloth and Yarn Export Committee of the Japanese Textile Export Council, an advisory body to MITI.

[4] Fiber not specified.

[5] Not available.

Compiled from official records of the Foreign Agricultural Service.

grouped together; they are expected to increase about 17 percent over 1955 values.

Table 10 also shows export goals for the Japanese fiscal year 1957 as developed by MITI and the Japan Synthetic Textile Export Association. Increases above 1956 export goals are as follows:

Rayon staple fiber	5.0 million pounds
Spun rayon yarn	6.5 million pounds
Rayon filament yarn	10.5 million pounds
Spun rayon fabrics	225.0 million square yards
Rayon filament fabrics	140.0 million square yards

The projected export plans depend upon some factors beyond the control of Japan's planners. Not the least important is the economic well-being and political stability of Japan's potential customers abroad and the expansion of their own textile industries. The Japanese well understand how essential exports are to the stability of their chemical fiber industry. They expect to expand sales, not only to traditional markets, but to the Soviet Union and Communist China. In this endeavor, they are counting on the competitive price of chemical fiber products as compared with other textile products, and on the low cost of Japanese chemical fibers as compared with the output of other countries.

JAPANESE INVESTMENTS IN FOREIGN COUNTRIES

The Japanese have embarked upon a vigorous policy to stimulate Japanese investment abroad. It appears that they are directing investments toward raw materials in those areas that Japan depends on for imports of raw materials; and toward manufacturing enterprises in those areas where Japan traditionally had markets that are now closed or reduced by import restrictions. Two new organizations are designed to assist and stimulate Japanese investment abroad: The Japan Technical Assistance Company and the Japan Overseas Industrial Technique Cooperation Association.

Late in 1956, it was estimated that there were five independently owned Japanese enterprises abroad, 41 jointly owned enterprises, and 39 technical assistance agreements. According to one observer, the latter category has special importance because about a fourth of these agreements are designed not only to earn patent royalties, but to pave the way for exports of Japanese machinery and equipment.

For textiles, this policy has found expression in attempts to obtain wood pulp supplies in Southeast Asia and in Alaska for the chemical fiber industry. Japanese cotton traders are also looking to the possibility of operating cotton gins and opening branch offices in the cotton producing areas of the United States. These steps are designed to assure continued raw material supplies, with minimum dependence upon foreign companies, and to help Japanese firms maintain day-to-day familiarity with the competitive situation between U. S. and Mexican cotton.

Spinners, weavers, and manufacturers of textile machinery are turning more and more attention to locating plants in other countries and selling machinery there. This trend results in part from governmental orders to cut down spindles and weaving facilities in Japan, and in part from the various kinds of controls that govern Japanese textile exports. The next few years will probably see increased effort in these directions.

In the last 10 years, at least 45 countries have bought Japanese textile machinery. Of total shipments, more than 80 percent went to Pakistan, India, and Korea. In India, mills have been equipped with Japanese machinery, and reports indicate that Japan may supply millions of dollars worth of machinery for the production of textiles and chemical fibers to meet India's new Five-Year Plan. Total f. o. b. value of textile machinery shipments during 1946-55 was $152 million. In 1937, shipments of cotton spinning equipment and cotton looms were nil; in 1955, exports accounted for more than 35 percent of total spinning equipment production and almost 50 percent of total cotton loom production.[7]

The Japanese are also financing foreign production of textile machinery. A textile machinery factory, with substantial Japanese interest, has been established in Mexico. In Brazil, a textile spindle and loom manufacturing plant may be completed sometime in 1958, although this venture is yet in the planning stage. According to reports, this factory, to be financed with 75 percent Japanese capital and 25 percent Brazilian capital, is being undertaken to meet demands of spinning mills in Brazil, both those of Brazilian and those of Japanese management. In Burma, Japanese and Burmese interests entered into final negotiations late in 1956 for the establishment of a factory to produce automatic weaving machinery in Burma.

In the spinning and weaving phase of the textile industry, Japanese have shown even greater accomplishments. They have already established cotton mills in Brazil and El Salvador. Mexican financiers and Japanese technicians have participated in a scheme to set up a cotton spinning and weaving mill in Mexico. A Japanese firm is making surveys for the establishment of cotton and wool mills in Brazil. Surveys are also being made for such enterprises in Burma, Iran, and the Philippines.

In some Southeast Asian countries, cotton fabrics can be readily imported, whereas cotton garment imports are either restricted or subject to high duties. This has brought about the development of garment manufacturing plants by the Japanese in Ceylon and Thailand; and under similar circumstances their development has been considered in other countries.

The results of this program can easily be foreseen. Exports of textile machinery from Japan mean more textile production in other countries. Japanese financial assistance in setting up foreign plants for cotton spinning, weaving, garment manufacture, and rayon production will add to the world's textile production capacity. Japanese interests will continue to expand, it is believed, especially where cotton is grown and where there is a market for chemical fiber products. This points to increased competition in the textile field from Japanese-managed companies. Plant locations in cotton-growing countries could conceivably result in some lowering of raw cotton purchases from the United States in years ahead.

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[7] Oriental Economist, July 1956, vol. XXIV, No. 549, p. 329.

OUTLOOK

Is it necessary to assume that the gains of the Japanese chemical fiber industry in Japan will be at the expense of the cotton textile industry--that the situation in Japan, or any other country for that matter, is a tug of war between two segments of one industry fighting for the largest piece of a static market? Or, is there room for the growth of both cotton and chemical fiber industries, through a continued high level of economic activity, an improved standard of living, and a constant rise in population?

So far, though plans allow for some expansion of the cotton textile market, the government's guidance to the textile industry seems to have overwhelmingly favored chemical fibers. But there are signs pointing in the other direction. Both industries have reason for a certain degree of optimism.

Plus Factors for Chemical Fibers

The manufacturers of rayon staple fiber--the bread and butter item among the chemical fibers--are not apprehensive about their expansion plans or the outlook for the future. Overproduction presented a temporary problem late in 1956 and early in 1957, as the companies scrambled to expand their facilities. But the industry has started an export drive and expects a reasonable degree of success in disposing of staple fiber surpluses--at some cost, of course, to the future sale of staple fiber yarns and made-up goods.

Despite this temporary imbalance between rayon staple production and its spinning in Japan, manufacturers plan to bolster production from the present level of 60.5 million pounds a month to about 70.0 million pounds a month by early summer. Industry leaders expect that the additional fiber will be absorbed by the half million additional spindles scheduled to be installed by the middle of 1957.

Another plus factor is the facility of controlling production in a relatively small number of companies--less than 15 major producers. Rayon producers are also counting on increased domestic consumption of rayon products geared to a better standard of living, the determined sales efforts of the industry, the inexpensiveness of their products as compared with competitive cotton items, and the tremendous strides constantly being made in quality improvement. Rayon producers expect to go after export markets vigorously as well as benefit, to some extent, from the increased demand caused by population growth in the Far East. The rayon industry also takes some comfort from the fact that it has some influence over the prices of its major raw material; for the prices of rayon pulp are set by tripartite conferences between representatives of the government, the pulp manufacturers, and the chemical fiber manufacturers. The crowning argument for optimism in the industry is the support it gets from the Japanese Government because of its low foreign-exchange requirements. This argument loses considerable force when the foreign-exchange reserve of the country is good, as it was at the end of 1956.

Minus Factors for Chemical Fibers

What will keep the chemical fiber industry from running away with the textile industry of Japan? The foremost obstacle to this possibility is the present competitive price of raw cotton, which was a direct result of the U. S. Government's cotton export pricing policy. Beginning in the spring of 1956, this competitive price was responsible to no little degree for forcing down the price of rayon staple fiber from 28 cents to 24 cents a pound and taking most of the profit out of the rayon business. At the same time, a vigorous cotton promotion campaign has reawakened Japanese consumer interest in cotton products, and may have had some influence on the government's willingness to reassess cotton import requirements.

The chemical fiber industry will have some troubles unrelated to cotton's improved competitive position. A major problem is a continued supply of wood pulp cheap enough to permit the profitable sale of staple fiber at current prices and certainly at competitive export prices. The long-term trend of pulp prices in Japan is upward; lumber companies have used up most of the easily accessible timber. Recently, Japanese rayon pulp prices have ranged between 10.26 and 10.35 cents per pound. Imported rayon pulp has been selling for 9.44 cents per pound; but here again exchange requirements assume grave importance. In any case, prices of both domestic and imported pulp are likely to increase from the pressure of increased demand.

Also on the dark side of the outlook picture for the chemical fiber industry is the serious possibility that the industry's export markets, which account for a high proportion of sales, cannot continue to expand at the present rate. This possibility exists not only because marketing opportunities are diminishing, but because foreign countries tend to protect domestic markets against the influx of inexpensive Japanese goods. The techniques used against Japanese cotton-goods imports--ranging all the way from exchange controls to direct import quotas--may also be turned against chemical fiber products as well.

Conclusion

The future of the textile industry in Japan rests on many factors--some of them beyond the control of any single government or industry group. There is room for some expansion of both the cotton and chemical fiber industries; but the ability of each industry group to solve its production and marketing problems remains of paramount importance.

The job of selling raw cotton to Japan may be difficult over the next few years. However, the opportunity to expand raw cotton sales still exists. Success will depend directly upon the United States' ability to meet the competition of rayon staple and foreign cotton both in quality and in price, and upon Japan's ability to maintain a reasonable balance of payments with the dollar area.

☆U. S. GOVERNMENT PRINTING OFFICE : 1957 O - 430749